

**U.S. Department of the Interior
Bureau of Land Management**

**STANDARDS DETERMINATION DOCUMENT
October 2009**

**Paris Livestock (2704538)
Term Grazing Permit Renewal on the
Sand Springs Allotment (00086)**

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Standards and Guidelines Assessment

The Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area were developed by the Mojave-Southern Great Basin Area Resource Advisory Council (RAC) and approved in 2006. Standards and guidelines are likened to objectives for healthy watersheds, healthy native plant communities, and healthy rangelands. Standards are expressions of physical and biological conditions required for sustaining rangelands for multiple uses. Guidelines point to management actions related to livestock grazing for achieving the standards.

This Standards Determination Document evaluates and assesses sheep grazing management achievement of the Standards and conformance with the Guidelines for the Sand Springs Allotment in the Battle Mountain BLM District. This document does not assess cattle grazing management achievement of the Standards and conformance with the Guidelines. This document also does not evaluate or assess achievement of the Wild Horse and Burro or the Off Highway Vehicle Standards or conformance to their respective Guidelines.

The Tonopah Field Office will be conducting a rangeland health assessment of the Sand Springs Allotment in regards to the cattle grazing permit renewal. This evaluation process may reveal new information which may require further changes to this sheep grazing permit. When the cattle grazing permit is fully processed, an assessment of cattle grazing management achievement of the Standards and conformance with the Guidelines will be completed.

The Standards were assessed for the Sand Springs Allotment by a BLM interdisciplinary team. Documents and publications used in the assessment process include the Soil Survey of Nye County, Nevada, Northeast Part (USDA-NRCS 2002); Ecological Site Descriptions for Major Land Resource Area 28B and 29 (USDA-NRCS 2003); Interpreting Indicators of Rangeland Health (USDI-BLM et al. 2000); Sampling Vegetation Attributes (USDI-BLM et al. 1996); and the National Range and Pasture Handbook (USDA-NRCS 1997). A complete list of references is included at the end of this document. All are available for public review in the Ely BLM District Office. The interdisciplinary team used rangeland monitoring data, professional observations, and photographs to assess achievement of the Standards and conformance with the Guidelines.

The Sand Springs Allotment encompasses approximately 213,040 public land acres. The grazing allotment occurs entirely within Nye County, and is situated approximately 75 miles southwest of Ely, Nevada. This grazing allotment is within the Battle Mountain BLM District and borders the Ely BLM District. The majority of the Sand Springs Allotment is within the Sand Springs West Wild Horse Herd Management Area. No wilderness occurs within the Sand Springs Allotment. The Park Range, Palisade Mesa, Antelope Range, Morey Peak, Fandango, and The Wall Wilderness Study Areas occur near the Sand Springs Allotment.

The Sand Spring Allotment has two permittees—Paris Livestock and Castle Rock Corriente, LLC. Castle Rock Corriente’s grazing permit will be further evaluated at a later time, however their common use with Paris Livestock is significant in this evaluation.

For Paris Livestock, the current term permit is issued for the period of 10/15/2006 to 10/14/2016. This is a sheep permit with a total grazing preference of 2,116 AUMs on the Sand Springs Allotment. Of these, 2,116 AUMs are active and 0 AUMs are suspended nonuse. The current term permit authorizes approximately 2,132 head of sheep on the Sand Springs Allotment with a season of use from 11/01 to 03/31.

For Castle Rock Corriente, LLC, the current term permit is issued for the period of 03/01/2004 to 02/24/2014. This is a cattle permit with a total grazing preference of 5,722 AUMs on the Sand Springs Allotment. The current term permit authorizes approximately 741 head of cattle with a season of use from 11/01 to 04/30 and approximately 217 head of cattle with a season of use from 05/01 to 10/31 on the Sand Springs Allotment.

The Sand Springs Allotment can be divided into the following ecological areas.

1. Sand Springs Valley: the main valley along the eastern half of the Sand Springs allotment, located in a 5-8 inch precipitation zone,
2. Pancake Range: a mountainous area located east of the Sand Springs Valley in an 8-10 inch precipitation zone
3. Railroad Valley: a valley located east of the Pancake Range in a 5-8 inch precipitation zone
4. North Portion: located north of Sand Springs Valley in a 8-10 inch precipitation zone.

Sand Springs Valley is dominated by saltbush plant communities with a very sandy soil surface which supports Indian ricegrass and galleta grass. Galleta grass is shallow rooted and thrives with a change in the soil surface texture which holds water up near the surface. This is the case in Sand Springs Valley. Indian ricegrass is adapted to sandy soils, whether it is shallow or deep. Shrubs that dominate Sand Springs Valley are shadscale and bud sagebrush, winterfat and fourwing saltbush. Shadscale/bud sagebrush is the most common plant community. This area is represented by key areas 1, 2, 3, 4, 5, 6, 8, 9, 11, 15, and 19.

The Pancake Range is dominated by sagebrush, mainly black sagebrush which grows on shallower soils. Black sagebrush is preferred forage for sheep. There is some Wyoming big sagebrush found in deeper soils. These soils support certain grass species, mainly Indian ricegrass, needleandthread, and galleta grass. This area is represented by key areas 7, 10, and 13.

Railroad Valley is dominated by salt desert shrub species, mainly shadscale or Bailey’s greasewood with bud sagebrush, galleta grass, and Indian ricegrass. This area supports less ricegrass or fourwing saltbush than Sand Springs Valley. This area is represented by key areas 16, 17, and 18.

The northern most portion of the allotment is mainly a valley dominated by Wyoming big sagebrush with winterfat on silty soils. This area is represented by key area 14.

The Pancake Range area provides the best sheep forage in the allotment. The small protected valleys are good bedding grounds for domestic sheep. Paris Livestock mainly utilizes this area of the Sand Springs Allotment therefore this evaluation will focus on this area. Paris Livestock may also utilize other portions of the Sand Springs Allotment as appropriate.

Key area 7 occurs on Sandy Loam 8-12" P.Z. ecological site (029XY049NV) which is historically dominated by Wyoming big sagebrush and Indian ricegrass. This key area was established to collect utilization data. Key area 10 occurs on a Shallow Calcareous Loam 8-12" P.Z. ecological site (029XY008NV) which is historically dominated by black sagebrush and Indian ricegrass. This site was established to collect utilization, frequency trend, and apparent trend data. Key area 13 occurs on a Loamy 5-8" P.Z. ecological site (029XY017NV) which is historically dominated by shadscale, bud sagebrush, and Indian ricegrass. This site was established to collect utilization and apparent trend data.

PART 1. STANDARD CONFORMANCE REVIEW

Standard 1. Soils

Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.

Soil indicators:

- Ground cover (vegetation, litter, rock, bare ground);
- Surfaces (e.g., biological crusts, pavement); and
- Compaction/infiltration.

Riparian soil indicators:

- Stream bank stability.

All of the above indicators are appropriate to the potential of the ecological site.

Determination:

X Achieving the Standard

- Not Achieving the Standard, but making significant progress towards achieving
- Not Achieving the Standard, and not making significant progress toward standard

Guidelines Conformance:

X In conformance with the Guidelines

- Not in conformance with the Guidelines

Conclusion: Standard Achieved

Within the Pancake Range of the Sand Springs Allotment, monitoring data, site notes, and professional observations show that the sites are maintaining appropriate ground cover, resisting erosion, maintaining productivity, and sustaining the hydrologic cycle. The measured ground

cover and approximate vegetative ground cover of the Ecological Site Descriptions (ESD) at key areas are summarized in Table 4-1 (Appendix I).

Key area 10 occurs on a Zadvar-Allker-Peeko soil association (3468; NRCS 2002) with a Shallow Calcareous Loam 8-12" P.Z. ecological site (029XY008NV). The approximate vegetative ground cover (basal and crown) for this ecological site is 20-30 percent. Monitoring data indicate that this key area has a vegetative cover of 22 percent with a litter cover of 12 percent and a gravel cover of 59 percent. No detectable soil movement was observed during the Apparent Trend Rating.

Key area 13 occurs on a Armespan-Lyz-Candelaria soil association (3641; NRCS 2002) with a Loamy 5-8" P.Z. ecological site (029XY017NV). The approximate vegetative ground cover (basal and crown) for this ecological site is 15-25 percent. Monitoring data indicate that this key area has a vegetative cover of 26 percent with a gravel cover of 74 percent. No detectable soil movement was observed during the Apparent Trend Rating.

No known public riparian areas exist in this area.

Standard 2. Ecosystem Components

Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses. Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

Upland Indicators:

- Canopy and ground cover, including litter, live vegetation, biological crust, and rock appropriate to the potential of the ecological site.
- Ecological processes are adequate for the vegetative communities.

Riparian Indicators:

- Stream side riparian areas are functioning properly when adequate vegetation, large woody debris, or rock is present to dissipate stream energy associated with high water flows.
- Elements indicating proper functioning condition such as avoiding accelerating erosion, capturing sediment, and providing for groundwater recharge and release are determined by the following measurements as appropriate to the site characteristics:
 - Width/Depth ratio;
 - Channel roughness;
 - Sinuosity of stream channel;
 - Bank stability;
 - Vegetative cover (amount, spacing, life form); and
 - Other cover (large woody debris, rock).

- Natural springs, seeps, and marsh areas are functioning properly when adequate vegetation is present to facilitate water retention, filtering, and release as indicated by plant species and cover appropriate to the site characteristics.

Water Quality Indicators:

- Chemical, physical and biological constituents do not exceed the state water quality standards.

The above indicators shall be applied to the potential of the ecological site.

Determination:

X Achieving the Standard

- Not Achieving the Standard, but making significant progress towards
- Not Achieving the Standard, and not making significant progress toward standard

Guidelines Conformance:

X In conformance with the Guidelines

- Not in conformance with the Guidelines

Conclusion: Standard Achieved

Within the Pancake Range of the Sand Springs Allotment, monitoring data, site notes, and professional observations show that the sites are maintaining appropriate canopy and ground cover for the ecological sites. Upland site cover data is summarized above under Standard 1 and in Table 4-1 (Appendix I).

Ecological processes are defined by the Standards and Guidelines for Nevada’s Mojave-Southern Great Basin Area as “Natural functions including the hydrologic cycle, the nutrient cycle, and energy flow (see also 43 CFR 4180.1(b)).” Proper vegetative and litter ground cover is generally indicative of adequate ecological processes. Ground cover allows for soil surface stability and infiltration in the hydrological cycle. Litter and plant roots systems return organic matter and other nutrients to the soil in the nutrient cycle and help to promote infiltration in the hydrologic cycle. Proper vegetative cover also allows energy to continue to flow through the ecosystem. Maintaining or improving ground cover and reducing bare ground protects the soil from accelerated erosion and promotes healthy ecosystems.

The ecological processes in the Pancake Range of the Sand Springs Allotment are adequate for the vegetative communities present. From 1981 to 2008, the frequency of black sagebrush, the primary sheep forage here, has been static at key area 10 (Table 5-1, Appendix I). Perennial, native grasses in this area have also been static to increasing. The Apparent Trend Rating at this key area found that ground cover was uniformly dispersed and adequate for the ecological site with a conclusion of an upward or stable trend. At key area 13, the Apparent Trend Rating found ground cover to be adequate for the ecological site and the soil being stabilized by gravels with a conclusion of a downward trend due to past heavy cattle use, establishment of cheatgrass, and the innate condition of the site.

No known public riparian areas exist in this area of the Sand Springs Allotment.

Standard 3. Habitat and Biota

Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

Habitat Indicators:

- Vegetation composition (relative abundance of species);
- Vegetation structure (life forms, cover, height, and age classes);
- Vegetation distribution (patchiness, corridors);
- Vegetation productivity; and
- Vegetation nutritional value.

Wildlife Indicators:

- Escape terrain;
- Relative abundance;
- Composition;
- Distribution;
- Nutritional value; and
- Edge-patch snags.

The above indicators shall be applied to the potential of the ecological site.

Determination:

Achieving the Standard

Not Achieving the Standard, but making significant progress towards

Not Achieving the Standard, and not making significant progress toward standard

Causal Factors:

Livestock are a causal factor to not achieving the standard.

Livestock are not a causal factor to not achieving the standard

Failure to meet the standard is related to other issues or conditions

Guidelines Conformance:

In conformance with the Guidelines

Not in conformance with the Guidelines

Conclusion: Not achieving the Standard, but not making significant progress towards. Livestock are not a contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.

Rangeland monitoring data (Appendix I) and professional observations indicate that vegetation composition, structure, distribution, and productivity in the Pancake Range of the Sand Springs Allotment are not consistent with the Rangeland Ecological Site Descriptions (ESD) and/or expected plant community for the area.

Key area 10 is a black sagebrush site. Indian ricegrass abundance is below potential but has increased since 1981. Trend is static to possibly upward. Cover data indicate the site is within the range expected for this ecological site. Sheep use has been well below allowable use levels over the past ten years (Table 2-1, Appendix I). Production data was collected in 2004 and found to be 56 percent of the potential production for the site. All of this is native perennial species (Table 7-1, Appendix I). Some years have been dry recently as shown in Graph 8-1, Appendix I. With continued low use, it is expected that desirable species will increase in wetter years. Forage present is good quality forage for cattle and sheep. Drought, as indicated by precipitation data (Table 8-1 and Graph 8-1), is the current causal factor for not meeting the vegetation productivity portion of this standard at key area 10.

Key area 13 is a shadscale-bud sagebrush site. Forage species occur but in very limited amounts. Cover data is within the range expected for this ecological site. Past cattle use has been excessive, however sheep use has been well below allowable use levels over the past ten years (Table 2-1, Appendix I). Estimated production datum was collected in 1990 and found to be 49 percent of the potential production for the site. All of the species recorded are native perennial species. Forage present is good quality forage for cattle and sheep. Past excessive use by cattle are the current causal factors for not meeting the vegetation composition of vegetation structure portions of this standard. Drought, as indicated by precipitation data (Table 8-1 and Graph 8-1), and excessive use by cattle are the current causal factors for not meeting the vegetation productivity portion of this standard.

Desert bighorn sheep (*Ovis canadensis nelsoni*), a sensitive species, have occupied much of this allotment. Nevada Department of Wildlife is monitoring this population and is not expecting any changes from the sheep grazing permittee (Podborny 2009).

Other special status species that are known to occur within the Sand Springs Allotment include Currant milkvetch (*Astragalus uncialis*), Eastwood milkweed (*Asclepias eastwoodiana*), Railroad Valley globemallow (*Sphaeralcea caespitosa* var. *williamsiae*), and Railroad Valley skipper (*Hesperia uncas fulvapalla*).

PART 2. ARE LIVESTOCK A CONTRIBUTING FACTOR TO NOT MEETING THE STANDARDS? SUMMARY REVIEW:

According to the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area, it must be determined if livestock grazing is a significant factor in the non-attainment of the Standards and Guidelines (BLM 2006).

Standard 1—Soils—and Standard 2—Ecosystem Components—are being achieved. Standard 3—Habitat and Biota—is not being achieved. However sheep grazing is not a significant factor

in the non-attainment of this Standard; failure to meet the standards is related to other issues or conditions.

Actual use records for 2006 cattle use were not collected, however, the Tonopah Field Office (BLM) specialists made a field visit with the permittees in 2007 and observed overuse in small areas (Little and Big Round Valleys of the Pancake Range; near Key Area 13) while the majority of the allotment was lightly used. This excessive use occurred during 2006-2007. The BLM talked to the cattle permittee about spreading out use to avoid these small pockets of overuse and to make better use of the available forage. He was also told that this area is the best range for the sheep operator.

In 2006, rabbit populations were at peak numbers and they browsed the winterfat to moderate and heavy levels throughout the Sand Springs Allotment. The following year the palatability of winterfat appeared to decline. This may have been a result of the excessive use.

Additionally, wild horse use, wildlife grazing, variable precipitation, and altered natural disturbance regimes occur on the Sand Springs Allotment. All of these factors together are likely causes to not meeting Standard 3.

Licensed sheep use levels have been significantly lower than allowable levels over the past ten years (Table 2-3, Appendix I). This is a winter, sheep grazing allotment. During winter, sheep prefer to browse upon shrubs, mainly black sagebrush. Sheep grazing occurs while grasses are dormant and outside the critical growing season. This further supports the conclusion that sheep grazing is not a significant contributing factor to not meeting Standard 3.

PART 3. GUIDELINE CONFORMANCE REVIEW AND SUMMARY

Sheep grazing is in conformance with all applicable Guidelines as provided in the Mojave-Southern Great Basin Standards and Guidelines.

PART 4. MANAGEMENT PRACTICES TO CONFORM WITH GUIDELINES AND ACHIEVE STANDARDS

Recommendations:

1. Continue rangeland monitoring of this allotment for livestock in compliance with proper allowable use levels for the Sand Springs Allotment
2. On the Sand Springs Allotment, the sheep season of use is recommended to remain 11/01 to 03/31.
3. On the Sand Springs Allotment, the Active AUMs are recommended to remain 2116 sheep AUMs.

4. To improve livestock distribution the placement of mineral blocks or salt blocks will be a minimum distance of ½ mile from water sources, riparian areas, winterfat bottoms, sensitive sites, populations of sensitive species, and cultural resource sites.
5. Maximum utilization levels on the Sand Springs Allotment will be established as follows:
 - Perennial native grasses: 55 percent current year's growth
This use level is necessary to allow desirable key herbaceous species to 1) develop above ground biomass for protection of soils, 2) to contribute to litter cover, and 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase desirable perennial cover.
 - Perennial shrubs and half-shrubs: 45 percent use on current annual production.
This use level is necessary to allow desirable perennial key browse species to develop branchlets and woody stature able to withstand the pressure of grazing use.
 - Shadscale communities: 35 percent use on current annual production.
 - Livestock will be moved to another authorized pasture or removed from the allotment before utilization objectives are met or no later than 5 days after meeting the utilization objectives. Any deviation in livestock movement will require authorization from the authorized officer.
6. Grazing will be in accordance with Nevada's Mojave-Southern Great Basin Area Standards and Guidelines.
7. Cattle grazing terms and conditions should be reviewed associated with fully processing the cattle permit renewal.
8. During drought conditions (below 75 percent of current normal precipitation), grazing will not occur within the Sand Springs Allotment.
9. Authorization of annual grazing and future changes to grazing management will consider moisture conditions.

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APPENDIX I
DATA SUMMARY
Sand Springs Allotment

1. Key Areas and Ecological Sites

A key area is a relatively small portion of a pasture or allotment selected because of its location, use, or grazing value as a monitoring point for grazing use. It is assumed that key areas, if properly selected, will reflect the current grazing management over the pasture or allotment as a whole (NRCS 1997). Key areas represent range conditions, trends, seasonal degrees of use, and resource production and values. Table 1-1 depicts key areas and their location within the Pancake Range of the Sand Springs Allotment as well as the ecological site associated with the key area in native rangeland and dominate soils of each site.

An ecological site is distinctive kind of land with specific physical characteristics that differs from other kinds of land in its ability to produce a distinctive kind and amount of vegetation (NRCS 1997). Ecological Site Descriptions (ESD) are used for inventory, evaluation, and management of native vegetation communities. The ecological site of a key area is determined based on several factors including soils, topography, and plant community.

Table 1-1. Sand Springs Allotment Key Areas; Pancake Range Area

Key Area	Location	Ecological Site	Dominate Species of HCPC	Soil Mapping Unit
7	T9N R54E S21 NE1/4	Sandy Loam 8-12 P.Z. (029XY049NV)	Wyoming big sagebrush/Indian ricegrass	3221—Stewval, moist-Rock outcrop association
10	T9N R54E S8 SE1/4	Shallow Calcareous Loam 8-12” P.Z. (029XY008NV)	black sagebrush/Indian ricegrass	3468—Zadvar- Allker-Peeko association
13	T8N R54E S11 W1/2	Loamy 5-8” P.Z. (029XY017NV)	shadescale – bud sagebrush/Indian ricegrass	3641—Armespan- Lyz-Candelaria association

2. Licensed Livestock Use

Over the grazing seasons from 1999 to 2008, livestock permitted use on the Sand Springs Allotment for Paris Livestock was 2,116 AUMs in a sheep operation. During this same time period, livestock licensed use ranged from a high of 444 AUMs in 1999 to a low of 0 AUMs in 2000-2003. Livestock use has varied dependent on available forage and/or snow as well as personal issues for the permittee. Table 2-3 summarizes the licensed use data for this time period.

Table 2-1. Sand Springs Allotment Licensed Use by Paris Livestock.

Grazing Year	Licensed Use (AUMs)	% Licensed Use of Permitted Use (AUMs)	Grazing Year	Licensed Use (AUMs)	% Licensed Use of Permitted Use (AUMs)
1999	444	21%	2004	171	8%
2000	0	0%	2005	171	8%
2001	0	0%	2006	39	2%
2002	0	0%	2007	355	17%
2003	0	0%	2008	158	7%

3. Utilization

Utilization is the estimation of the proportion of annual production consumed or destroyed by animals (Swanson 2006). The Nevada Rangeland Monitoring Handbook gives guidelines to determine the proper use levels by plant category (grasses, forbs, and shrubs) and by grazing season (spring, summer, fall, winter, yearlong). Proper use levels for all allotments are also implied by the Standards and Guidelines for Rangeland Health and Grazing Administration (February 1997).

Utilization data collected at the three key areas in the Pancake Range of the Sand Springs Allotment is summarized in Table 3-1. Utilization data was collected for all herbivores although this evaluation focuses on sheep use only.

Table 3-1. Sand Springs Allotment Utilization

Key Area	Key Species	Grazing Year	Utilization	Total
7	Sandberg's bluegrass	2000	slight	5%
		2003	slight	7%
	needleandthread	1999	slight	1%
		2000	slight	4%
		2003	light	22%
	thickspike wheatgrass	2007	slight	3%
2000		slight	3%	
	2003	slight	8%	
	10	needleandthread	2000	slight
2003			slight	3%
2007			slight	3%
Indian ricegrass	1999	light	26%	
	2000	slight	5%	
	2003	slight	15%	
black sagebrush	2007	slight	9%	
	2000	slight	3%	
	2003	slight	3%	

Table 3-1. Sand Springs Allotment Utilization

Key Area	Key Species	Grazing Year	Utilization	Total
13	Indian ricegrass	2000	light	27%
		2003	slight	4%
		2007	slight	17%
	sand dropseed	1999	slight	8%
		2000	moderate	48%
		2003	slight	14%
		2007	severe	84%
	winterfat	2000	light	27%
		2003	slight	4%
2007		moderate	43%	

At key area 7, use was excessive in 1991 and 1992. Otherwise this area has not been excessively used by livestock.

At key area 10, use gathered has not been excessive, allowable use levels were only exceeded in 1991. 2005 and 2006 were peak population years for rabbits and they would have made some impact on the site those years.

At key area 13, use exceeded allowable use levels in 1989, 1990, 1991, and 1992. This area is used by horses, cattle, and sheep. Use was not gathered in 2006. However, the BLM made a field visit with the permittees in 2007 and observed overuse in small areas (Little and Big Round Valleys) while the majority of the allotment was lightly used. This excessive use occurred during 2006-2007. The BLM talked to the cattle permittee about spreading out use to avoid these small pockets of overuse and to make better use of the available forage. He was also told that this area is the best range for the sheep operator.

Also at key area 13, 2006 was a peak population year for rabbits and they browsed the winterfat to moderate and heavy levels throughout the complex. The following year the palatability of winterfat appeared to decline. This may have been a result of the excessive use.

There was often not enough Indian ricegrass to measure utilization at key area 13. Winterfat was also scarce. This site has often been questioned as a viable, reliable key area because of location and/or lack of key forage species. This area is within Big Round Valley, an area of domestic sheep grazing. However, domestic sheep are only grazed in this valley about one out of every 3 years.

4. Ground Cover

Maintaining or improving ground cover and reducing bare ground protect the soil from accelerated erosion and promote healthy ecosystems. Cover data was collected at key areas 10 and 13 in the Pancake Range on the Sand Springs Allotment in 2008. Table 4-1 summarizes this cover data collected.

Table 4-1.Sand Springs Allotment Ground Cover 2008

Key Area	Range Site	Bare Ground	Ground Cover			ESD Vegetative Cover
			Gravel	Litter	Vegetation	
10	Shallow Calcareous Loam 8-12” P.Z. (029XY008NV)	7%	59%	12%	22%	20-30%
13	Loamy 5-8” P.Z. (029XY017NV)	0%	74%	0%	26%	15-25%

5. Frequency Trend

Frequency data has been collected at key area 10 on the Sand Springs Allotment since the early 1980s. This information has been used to calculate trend which is summarized in Table 5-1. Trend at this key area is static to possibly upward. The increase in Indian ricegrass early on has been maintained. Indian ricegrass is one of the most important key species here.

Table 5-1.Sand Springs Key Area 10 Frequency Trend Analysis

Plant Species	Trend 1981-1985	Trend 1985-1990	Trend 1990-1999	Trend 1999-2008	Trend 1981-2008
Needleandthread	Static	Static	Static	Increase	Increase
Green rabbitbrush	Static	Static	Static	Static	Decrease
Black sagebrush	Static	Static	Static	Static	Static
Indian ricegrass	Increase	Static	Static	Static	Static
Squirreltail	Increase	Decrease	Increase	Decrease	Static

6. Apparent Trend Ratings

Apparent Trend Ratings were completed at key areas 10 and 13 in the Pancake Range of the Sand Springs Allotment in 2008. Apparent Trend Ratings evaluate the observable vegetation and soil condition, and whether or not it appears to have an upward, stable, or downward trend. Components observed include:

Vegetation

Up or Stable:

1. Favorable frequency grouping and age classes of desirables, intermediates and least desirables;
2. Forage plants are not being pulled up or trampled out by grazing;
3. Vigor of key forage species is high, as indicated by leaf length, seed stock production, and normal color;
4. Browse species show little or no hedging.

Down:

1. A disproportionate amount of intermediates and least desirables. Seedlings of better plants are having difficulty becoming established;
2. Forage species are being pulled up and trampled out by grazing;
3. Low vigor of key species as indicated by reduced size of plant, reduced leaf length, lack of seed stalks, and off color (sickly yellow);
4. Browse species show heavy hedging.

Soils

Up or Stable:

1. Ground cover dispersion is uniform;
2. There is no detectable soil movement;
3. Soil cover is continuous and intact;
4. There is no exposure of plant roots;
5. Stones and rock fragments, where present, are normal and in place;
6. Lichen lines on stones and rock fragments extend to soil level;
7. There are no active gullies;
8. There are no recent soil deposits, either alluvial or Aeolian;
9. There are no wind-scoured depressions.

Down:

1. Ground cover dispersion is variable or highly variable;
2. Soil movement is detectable;
3. Soil cover is broken and soil is exposed;
4. Plant roots are exposed
5. Stones and rock fragments are concentrating on surface as erosion pavement;
6. Lichen lines on stones are considerable above soil surface
7. Active gullies are present, as indicated by recent cutting and sloughing;
8. Recent soil deposits, either alluvial or Aeolian, are present;
9. Wind-scoured depressions are present.

Table 6-1 summarizes the results of the Apparent Trend Rating completed on the Sand Springs Allotment in June, 2008.

Table 6-1.Sand Springs Allotment Apparent Trend Results.

Key Area	Apparent Trend Rating	Conclusions
10	Upward or Stable	as indicated by overall health of key species
13	Downward	most likely due to heavy use by cattle, wild horses, and rabbits in 2006

7. Vegetation Production and Composition

Table 7-1. Production Data at key area 10

Species	2004 Pounds/Acre	% Composition by weight	HCPC Pounds/Acre
Indian ricegrass	14	5	100-175
Needleandthread	3	1	25-75
Squirreltail	8	3	15
Perennial forbs	3	1	10-40
Black sagebrush	235	84	150-225
Nevada ephedra	11	4	25-75
Wyoming big sagebrush	6	2	15
Douglas rabbitbrush	Trace	T	15
Total production	280		500 average year

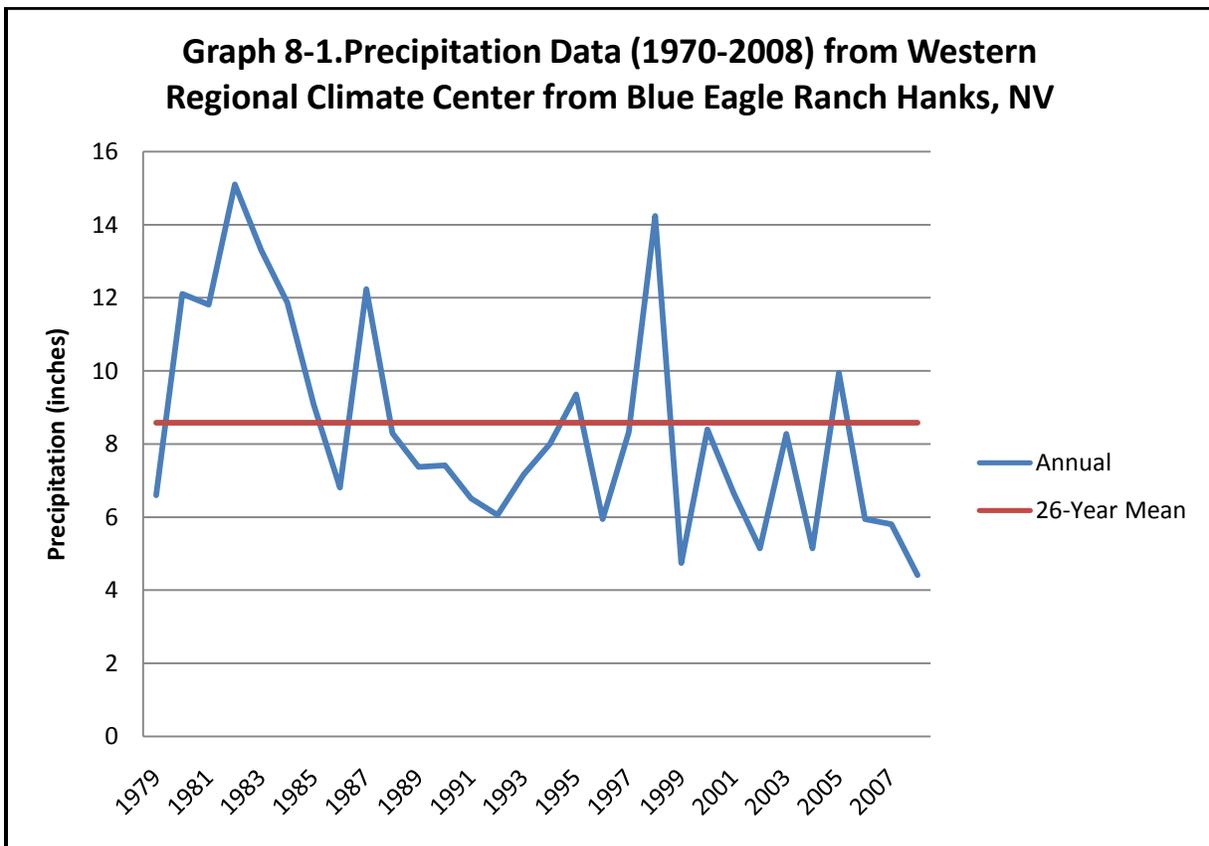
8. Precipitation Data

Annual precipitation greatly influences growing condition of forage species and is often correlated to available forage. Historical climate data from the Western Regional Climate Center at the Tonopah, Nevada weather station is being used as to represent the annual precipitation on the Sand Springs Allotment. Table 8-1 and Graph 8-1 summarize annual precipitation data collected since 1970. The 26 year mean precipitation for this station is 8.58 inches.

Table 8-1. Western Regional Climate Center Precipitation Data from Blue Eagle Ranch Hanks, NV (in inches)

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
1979	1.1	0.8	1.1	0.2	0.2	0.0	0.9	1.1	0.0	0.6	0.6	0.2	6.60
1980	1.1	1.0	2.0	0.6	3.4	0.3	0.4	0.3	1.8	0.2	1.0	0.0	12.10
1981	0.9	0.7	1.4	1.9	2.1	0.0	0.1	0.1	0.2	4.2	0.3	0.0	11.80
1982	0.7	0.2	2.1	0.7	2.1	0.2	0.7	0.9	4.0	2.1	1.2	0.1	15.10
1983	1.7	0.9	1.4	1.3	0.1	0.4	0.0	3.9	0.5	0.6	1.5	1.0	13.30
1984	0.4	0.6	0.8	0.9	0.0	0.3	2.9	1.5	1.7	0.9	0.4	1.5	11.90
1985	0.7	0.7	1.0	0.0	0.7	0.0	1.2	0.0	0.5	2.6	1.5	0.3	9.07
1986	0.5	0.7	1.4	0.8	0.8	0.0	0.8	0.6	0.4	0.9	0.2	0.0	6.81
1987	0.8	0.4	0.8	0.9	1.7	0.3	1.1	1.0	0.1	2.1	2.5	0.5	12.2
1988	1.4	0.0	0.2	1.9	1.4	0.4	0.1	0.7	0.9	0.0	0.8	0.4	8.30
1989	0.2	0.5	0.1	0.0	2.0	1.1	0.6	2.2	0.2	0.5	0.0	0.0	7.37
1990	0.3	0.8	0.8	0.9	0.7	1.2	0.3	0.3	0.6	0.9	0.5	0.0	7.42
1991	0.2	0.2	1.7	0.3	2.0	0.3	0.1	0.1	0.4	0.9	0.0	0.4	6.51
1992	0.8	0.3	2.4	0.1	0.1	0.2	0.6	0.2	0.5	0.7	0.0	0.3	6.06
1993	1.5	1.1	0.8	0.1	0.1	1.3	0.1	0.5	0.1	0.5	0.5	0.6	7.16

1994	0.6	0.5	0.6	0.9	1.3	0.0	0.0	1.0	0.5	0.4	0.6	1.5	8.01
1995	0.8	0.3	0.9	1.5	3.1	1.3	0.2	0.5	0.2	0.0	0.0	0.5	9.36
1996	0.1	0.7	0.9	0.0	1.0	0.2	0.1	0.0	0.1	0.3	1.9	0.7	5.94
1997	1.2	0.6	0.2	0.2	0.3	1.2	0.5	0.8	1.5	0.7	0.9	0.3	8.32
1998	1.1	1.9	1.9	1.4	1.1	1.5	1.0	0.2	1.5	1.8	0.8	0.0	14.30
1999	0.7	0.7	0.2	1.1	0.9	0.8	0.0	0.2	0.3	0.0	0.0	0.0	4.74
2000	0.0	2.0	0.7	1.3	0.5	0.0	0.0	1.0	0.5	2.0	0.1	0.3	8.40
2001	0.5	0.3	0.1	1.5	0.5	0.0	0.6	0.2	0.3	0.6	0.8	1.4	6.65
2002	0.5	0.6	0.5	0.5	0.9	0.3	0.3	0.0	0.2	0.8	0.3	0.1	5.14
2003	0.2	0.8	0.5	1.5	0.9	0.0	0.5	2.2	0.2	0.0	0.7	0.8	8.28
2004	0.3	0.8	0.0	1.0	0.0	0.1	0.3	0.4	0.0	1.1	0.9	0.3	5.14
2005	1.5	1.1	1.1	2.5	2.0	0.1	0.1	0.6	0.0	0.2	0.5	0.3	9.95
2006	0.6	0.2	1.2	0.9	0.1	0.1	1.6	0.2	0.1	0.5	0.0	0.5	5.94
2007	0.4	0.8	0.7	0.9	0.0	0.7	0.1	1.3	1.4	0.2	0.0	1.1	5.80
2008	0.4	1.1	0.3	0.0	0.0	0.1	0.4	0.2	0.2	0.3	1.2	0.3	4.41



APPENDIX II
MAPS
Sand Springs Allotment

Figure 1. Sand Springs Allotment

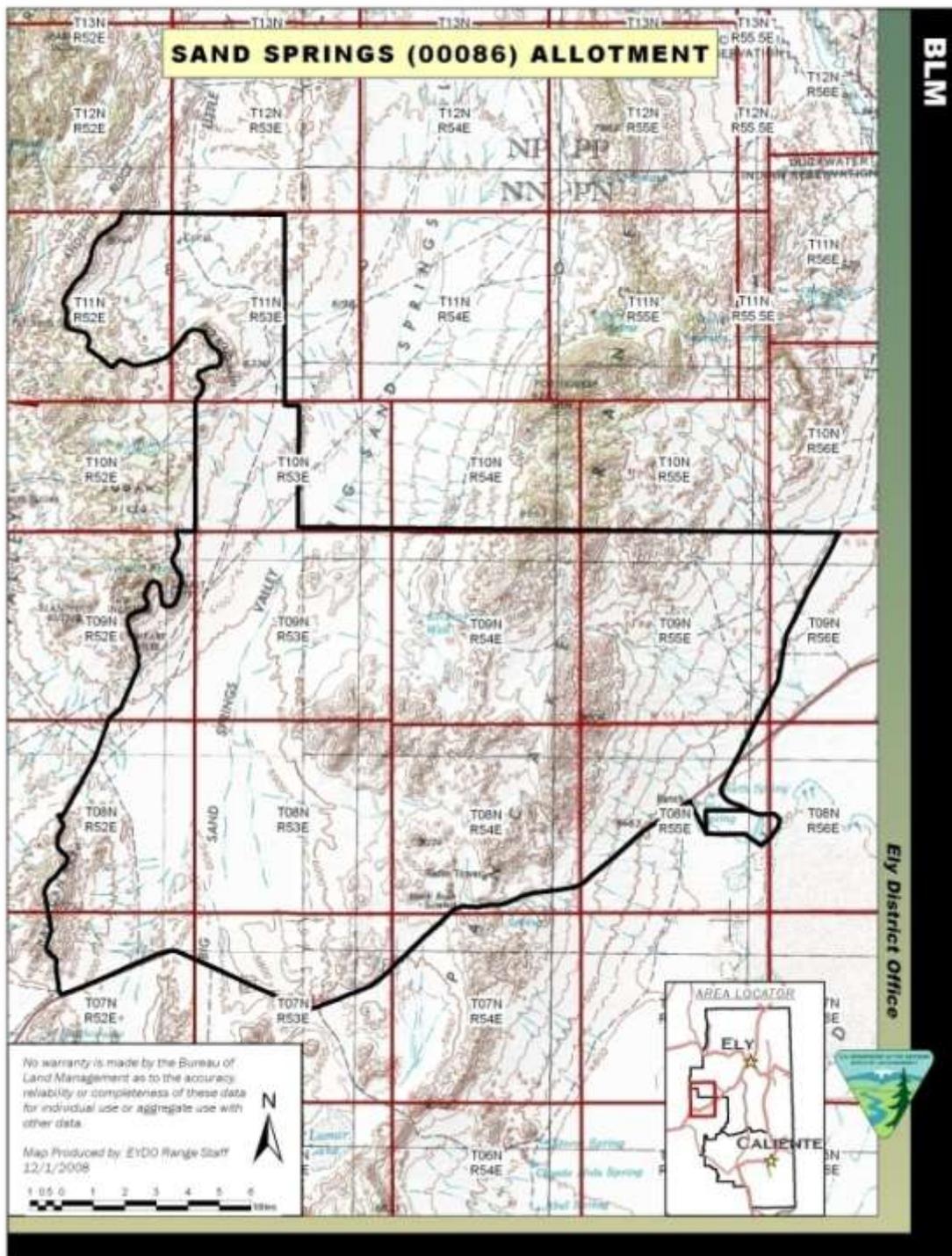
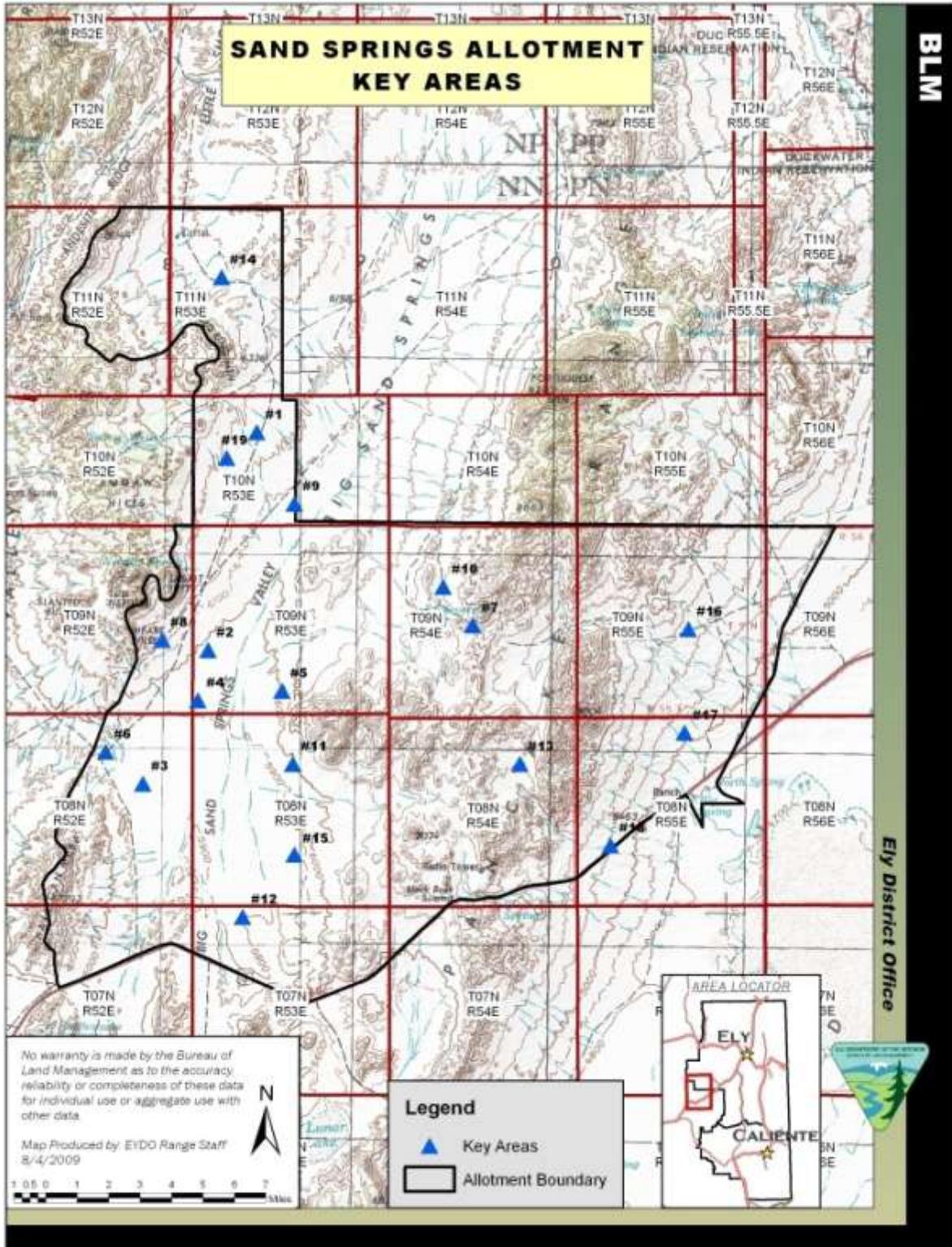


Figure 2. Key Areas on the Sand Springs Allotment



APPENDIX III
TERMS AND CONDITIONS
Sand Springs Allotment

Paris Livestock:

Allotment Name and Number	Livestock Number/Kind	Grazing Period Begin End	% Public Land*	Type Use	AUMs**
Sand Springs 00086	2132 Sheep	11/01 to 03/31	100	Active	2117
*% Public Land is the percent of public land for billing purposes. **AUMs may differ from Active Permitted Use due to a rounding difference with the number of livestock and the period of use.					
Allotment AUMs Summary					
Allotment Name	ACTIVE AUMS	SUSPENDED AUMS	GRAZING PERMITTED USE		
Sand Springs	2116	0	2116		

Livestock Management Practices - Terms and Conditions

In accordance with 43 CFR §4130.3 and §4130.3-2 the following terms and conditions shall be included in the term grazing permit for Paris Livestock for the Sand Springs Allotment:

Sand Springs Allotment (00086):

1. To improve livestock distribution, the placement of mineral or salt supplements will be a minimum distance of ½ mile from water sources. These supplements will also be placed no closer than ½ mile from riparian areas, sensitive sites, populations of sensitive species, and cultural resource sites. Use of nutritional supplements (not forage) is encouraged to improve the ability of livestock to utilize forage and to improve livestock distribution across the allotment.
2. Maximum utilization levels on the Sand Springs Allotment will be established as follows:
 - Perennial native grasses: 50% current year’s growth
 - Perennial shrubs and half-shrubs: 50% use on current annual production.
 - Livestock will be moved to another authorized pasture or removed from the allotment before utilization objectives are met or no later than 5 days after meeting the utilization objectives. Any deviation in livestock movement will require authorization from the authorized officer.
3. During drought conditions (below 75 percent of current normal precipitation), grazing will not occur within the Sand Springs Allotment.
4. Livestock grazing will be in accordance with the Mojave-Southern Great Basin Area Standards and Guidelines.

Additional Stipulations Common to All Grazing Allotments:

1. Livestock numbers identified in the Term Grazing Permit are a function of seasons of use and permitted use. Deviations from those livestock numbers and seasons of use may be

authorized on an annual basis where such deviations would not prevent attainment of the multiple-use objectives for the allotment.

2. Deviations from specified grazing use dates will be allowed when consistent with multiple-use objectives. Such deviations will require an application and written authorization from the authorized officer prior to grazing use.
3. The authorized officer is requiring that an actual use report (form 4130-5) be submitted within 15 days after completing your annual grazing use.
4. Grazing use will be in accordance with the Standards and Guidelines for Grazing Administration. The Standards and Guidelines have been developed by the respective Resource Advisory Council and approved by the Secretary of the Interior on February 12, 1997. Grazing use will also be in accordance with 43 CFR Subpart 4180 - Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration.
5. If future monitoring data indicates that Standards and Guidelines for Grazing Administration are not being met, the permit will be reissued subject to revised terms and conditions.
6. Pursuant to 43 CFR 10.4 (G) the holder of this authorization must notify the authorized officer by telephone, with written confirmation, immediately upon discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined at 43 CFR 10.2). Further, pursuant to 43 CFR 10.4 (C) and (D), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.
7. The permittee must notify the authorized officer by telephone, with written confirmation, immediately upon discovery of any hazardous or solid wastes as defined in 40 CFR Part 261.
8. The permittee is responsible for all maintenance of assigned range improvements including wildlife escape ramps for both permanent and temporary water troughs.
9. When necessary, control or restrict the timing of livestock movement to minimize the transport of livestock-borne noxious weed seeds, roots, or rhizomes between weed-infested and weed-free areas.